

2. (amended) The method according to claim [1] 57, wherein the reactive halide composition comprises  $\text{XeF}_2$ .
3. (amended) The method according to claim [1] 57, wherein the reactive halide composition is selected from the group consisting of  $\text{SF}_6$ ,  $\text{SiF}_4$ , and  $\text{Si}_2\text{F}_6$ .
4. (amended) The method according to claim [1] 57, wherein the reactive halide composition is selected from the group consisting of  $\text{SiF}_2$  and  $\text{SiF}_3$  radicals.
12. (amended) The method according to claim [1] 57, wherein the gas-phase reactive halide composition is selected from the group consisting of  $\text{SiF}_2$  and  $\text{SiF}_3$  radicals and the reactive halide composition is generated by reaction of  $\text{XeF}_2$  with silicon.
13. (amended) The method according to claim [1] 57, wherein the gas-phase reactive halide composition is selected from the group consisting of  $\text{SiF}_2$  and  $\text{SiF}_3$  radicals and the reactive halide composition is generated by passing  $\text{SiF}_4$  through an energetic dissociation source.
24. (amended) The method according to claim [19] 57, wherein the **[cleaning gas further comprising a] noble metal residue comprises iridium, and the cleaning gas comprises  $\text{XeF}_2$  and at least one** gas phase reactive halide species selected from the group consisting of  $\text{SF}_6$ ,  $\text{SiF}_4$ ,  $\text{Si}_2\text{F}_6$  and  $\text{SiF}_2$  and  $\text{SiF}_3$  radicals and the microelectronic device structure, is further contacted with a cleaning enhancement agent.

**Please add the following new claims:**

57. A method for removing from a microelectronic device structure a noble metal residue including at least one metal selected from the group consisting of platinum, palladium, iridium and rhodium, the method comprising contacting the microelectronic device structure with a gas-phase reactive halide composition to remove the residue.

58. A method for removing from a microelectronic device structure, a noble metal residue comprising iridium said method comprising, contacting the microelectronic device structure with a